

## Bodies Subject to the New Law

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was melted on this ring by the ordinary blowpipe, or even in some cases by the oxy-hydrogen blowpipe, and when the drop, retained in its place by the ring, was thoroughly hot and fluid, a platina wire from the opposite pole of the battery was made to touch it, and the effects observed.

138. The following are various substances, taken from very different classes chemically considered, which are subject to» this law. The list might, no doubt, be enormously extended; but I have not had time to do more than confirm the law by a sufficient number of instances.

First, *Water*.

Amongst *oxides* ;—potassa, protoxide of lead, glass of anti-mony, protoxide of antimony, oxide of bismuth.

*Chlorides* of potassium, sodium, barium, strontium, calcium, magnesium, manganese, zinc, copper (proto-), lead, tin (proto-), antimony, silver.

*Iodides* of potassium, zinc and lead, protiodide of tin, periodide of mercury; *fluoride* of potassium; *cyanide* of potassium; *sulpho-cyanide* of potassium.

*Salts*. Chlorate of potassa; nitrates of potassa, soda, baryta, strontia, lead, copper, and silver; sulphates of soda and lead, proto-sulphate of mercury; phosphates of potassa, soda, lead, copper, phosphoric glass or acid phosphate of lime; carbonates of potassa and soda, mingled and separate; borax, borate of lead, per-borate of tin; chromate of potassa, bi-chromate of potassa, chromate of lead; acetate of potassa.

*Sulphurets*. Sulphuret of antimony, sulphuret of potassium made by reducing sulphate of potassa by hydrogen; ordinary sulphuret of potassa.

Silicated potassa; chameleon mineral.

139. It is highly interesting in the instances of those sub-

stances which soften before they liquefy, to observe at what period the conducting power is acquired, and to what degree it is exalted by perfect fluidity. Thus, with the borate of lead, when heated by the lamp upon glass, it becomes as soft as treacle, but it did not conduct, and it was only when urged by the blowpipe and brought to a fair red heat, that it conducted.

When rendered quite liquid, it conducted with extreme facility.

140. I do not mean to deny that part of the increased con-

ducting power in these cases of softening was  
probably due *to*  
the elevation of temperature (168, 181); but I  
have no doubt  
that by far the greater part was due to -the  
influence of the